

1 What is Claimed Is:

1 1. A stabilized milk product, comprising:

- 2 a) from about 0.25 to about 10.0% by weight of milk protein including solid milk
3 protein particles;
4 b) from about 5 to about 98% by weight of juice;
5 c) from about 0.01 to about 2.5% by weight of cations; and
6 d) from about 0.01 to about 5.0% by weight of a stabilizer; wherein the stabilized
7 milk product is an aqueous fluid, having a pH in a range from 3.2 to 6.5, in which
8 the solid milk protein particles are suspended in the stabilized milk product and
9 remain suspended for a period of greater than six weeks after production; wherein
10 the average particle size of the solid milk protein particles range from about 1.0 to
11 about 22.0 micrometers.

1 2. The stabilized milk product of claim 1, wherein the product contains from about 0.6 to
2 about 2.5% by weight of a stabilizer and the stabilizer is pectin.

1 3. The stabilized milk product of claim 1, wherein the stabilizer is an HM pectin.

1 4. The stabilized milk product of claim 1, wherein the product contains from about 1.0 to
2 about 2.5% by weight of milk protein.

1 5. The stabilized milk product of claim 1, wherein the product further contains from about 1
2 to about 40% by weight of particulate ingredients derived from a product of nature selected from
3 a group consisting of fruit, vegetables and other edible plant materials.

1 6. The stabilized milk product of claim 5, wherein the average particle size of the particulate
2 ingredients ranges from about 62 to about 498 micrometers.

- 1 7. The stabilized milk product of claim 1, wherein the product contains from about 0.4 to
2 about 1.5% by weight of cations.
- 1 8. The stabilized milk product of claim 1, wherein the product contains from about 0.01 to
2 about 0.5% by weight of an acidulent.
- 1 9. The stabilized milk product of claim 1, wherein the pH of the product is from about 3.8 to
2 about 4.4.
- 1 10. The stabilized milk product of claim 1, wherein the pH of the product is from about 4.6 to
2 about 6.5.
- 1 11. The stabilized milk product of claim 1, wherein the water activity of the product is from
2 about 0.85 to about 0.999.
- 1 12. The stabilized milk product of claim 1, wherein the titratable acidity of the product is
2 from about 0.5 to about 1.2.
- 1 13. The stabilized milk product of claim 1, wherein the viscosity of the product is from about
2 50 to about 350 mPa.
- 1 14. A stabilized milk product made by a process, the process comprising the steps of:
2 a) blending a fluid milk product with a pectin stabilizer in a weight ratio of fluid milk to
3 pectin stabilizer of from about 80 to 1 to about 20 to 1 to form a blended milk/pectin mixture;
4 b) heating and homogenizing the milk/pectin mixture, wherein the temperature of the
5 mixture is raised to a temperature of at least about 150°F;
6 c) blending the homogenized milk/pectin mixture with juice; and
7 d) heating and homogenizing the blended milk/pectin/juice mixture, wherein the
8 temperature is raised to a temperature of at least about 170°F; wherein the product of the process
9 includes:

10 i) from about 0.25 to about 10.0% by weight of milk protein including solid
11 milk protein particles;
12 ii) from about 5 to about 98% by weight of fruit ingredients including solid
13 fruit particles;
14 iii) from about 0.01 to about 2.5% by weight of cations; and
15 iv) from about 0.01 to about 5.0% by weight of a stabilizer; wherein the
16 stabilized milk product is an aqueous fluid, having a pH in a range from 3.2 to 6.5, in
17 which the solid milk protein particles are suspended in the stabilized milk product and
18 remain suspended for a period of greater than six weeks after production; wherein the
19 average particle size of the solid milk protein particles range from about 1.0 to about 22.0
20 micrometers.

1 15. The stabilized milk product of claim 14, wherein the product contains from about 0.6 to
2 about 2.5% by weight of a stabilizer and the stabilizer is pectin.

1 16. The stabilized milk product of claim 15, wherein the stabilizer is an HM pectin.

1 17. The stabilized milk product of claim 14, wherein the product contains from about 1.0 to
2 about 2.5% by weight of milk protein.

1 18. The stabilized milk product of claim 14, wherein the product further contains from about
2 1 to about 40% by weight of particulate ingredients derived from a product of nature selected
3 from a group consisting of fruit, vegetables and other edible plant materials.

1 19. The stabilized milk product of claim 14, wherein the product contains from about 0.4 to
2 about 1.5% by weight of cations.

1 20. The stabilized milk product of claim 14, wherein the product contains from about 0.01 to
2 about 0.5% by weight of an acidulent.

1 21. The stabilized milk product of claim 14, wherein the pH of the product is from about 3.8
2 to about 4.4.

1 22. The stabilized milk product of claim 14, wherein the pH of the product is from about 4.6
2 to about 6.5.

1 23. The stabilized milk product of claim 14, wherein the water activity of the product is from
2 about 0.85 to about 0.999.

1 24. The stabilized milk product of claim 14, wherein the titratable acidity of the product is
2 from about 0.5 to about 1.2.

1 25. The stabilized milk product of claim 14, wherein the viscosity of the product is from
2 about 50 to about 350 mPa.

1 26. A process for making a stabilized milk product, the process comprising the steps of:

2 a) blending a fluid milk product with a pectin stabilizer in a weight ratio of fluid milk to
3 pectin stabilizer of from about 80 to 1 to about 20 to 1 to form a blended milk/pectin mixture;

4 b) heating and homogenizing the milk/pectin mixture, wherein the temperature of the
5 mixture is raised to a temperature of at least about 150°F;

6 c) blending the homogenized milk/pectin mixture with juice; and

7 d) heating and homogenizing the blended milk/pectin/juice mixture, wherein the
8 temperature is raised to a temperature of at least about 170°F; wherein the process is effective to
9 produce a stabilized milk product having:

10 i) from about 0.25 to about 10.0% by weight of milk protein including solid
11 milk protein particles;

12 ii) from about 5 to about 98% by weight of juice;

13 iii) from about 0.01 to about 2.5% by weight of cations; and

14 iv) from about 0.01 to about 5.0% by weight of a stabilizer; wherein the
15 stabilized milk product is an aqueous fluid having a pH in a range from about 3.2 to about
16 6.5, in which the solid milk protein particles are suspended in the stabilized milk product

and remain suspended for a period of greater than six weeks after production; wherein the average particle size of the solid milk protein particles range from about 1.0 to about 22.0 micrometers.

27. A stabilized milk product comprising:
milk containing solid milk protein particles;
a stabilizer;
and a juice;
wherein the milk and the stabilizer are pre-mixed and homogenized at a temperature of at least 150° F prior to the addition of the juice to form a pre-mixture; and
wherein the pre-mixture and the juice are combined to form a milk stabilizer/juice mixture and homogenized at a temperature of at least 170° F to form the stabilized milk product;
wherein the stabilized milk product is an aqueous fluid, having a pH in a range from 3.2 to 6.5, in which the solid milk protein particles are suspended in the stabilized milk product and remain suspended for a period of greater than six weeks after production; wherein the average particle size of the solid milk protein particles range from about 1.0 to about 22.0 micrometers.

28. A method of making a stabilized milk product, the method comprising:
blending a pectin into a milk fluid with agitation to form a mixture, the milk fluid containing solid milk protein particles;
heating the blend to a temperature of at least 150°F;
homogenizing the heated mixture;
blending the mixture with a juice;
heating the blended pectin/milk/fruit mixture to a temperature of at least 180°F; and
homogenizing the heated mixture to form the stabilized milk product; wherein the stabilized milk product is an aqueous fluid, having a pH in a range from 3.2 to 6.5, in which the solid milk protein particles are suspended in the stabilized milk product and remain suspended for a period of greater than six weeks after production; wherein the average particle size of the solid milk protein particles range from about 1.0 to about 22.0 micrometers.

2 29. A stable protein-containing beverage comprising:
3 about 0.25 to about 10.0% by weight of an edible protein;
4 about 0.01 to about 2.5% by weight of a positively charged electrolyte or a combination
5 thereof;
6 about 5 to about 98% by weight of juice; and
7 about 0.01 to about 5% by weight of a stabilizer; wherein the stable protein-containing
8 beverage is at least primarily an aqueous system having a pH in the range of from about 3.2 to
9 about 6.5.

1 30. The stable protein-containing beverage of claim 29, wherein the edible protein is casein.

1 31. The stable protein-containing beverage of claim 29, wherein the positively charged
2 electrolyte includes a significant concentration of calcium.

1 32. The stable protein-containing beverage of claim 29, wherein the pH is in the range of
2 from about 3.8 to about 4.4.

1 33. The stabilized milk product of claim 18, wherein the average particle size of the
2 particulate ingredients ranges from about 62 to about 498 micrometers.

1 34. The stabilized milk product of claim 27, wherein the product further contains from about
2 1 to about 40% by weight of particulate ingredients derived from a product of nature selected
3 from a group consisting of fruit, vegetables and other edible plant materials.

1 35. The stabilized milk product of claim 34, wherein the average particle size of the
2 particulate ingredients ranges from about 62 to about 498 micrometers.